

ABSTRACT

A carbonator is cylindrical having a closed bottom end and a removable top end disk. The disk includes a non-carbonated beverage inlet for connecting to serpentine coil into which the water and syrup have previously been introduced at a desired ratio. There is also an inlet for attachment to a pressurized source of carbon dioxide gas. An outlet provides for fluid connection of the carbonator to a freeze cylinder for delivery therein of the carbonated beverage. In the preferred form, the beverage inlet is combined with a level sensor, which sensor provides a signal for controlling the pumping of the non-carbonated water/syrup mixture into the cylinder. The carbonator also includes a circular baffle plate located therein and positioned above the bottom end. The baffle include a plurality of primary beverage holes there through and one large secondary beverage flow hole. Internally of the carbonator, the outlet has a tube connected thereto and extending there from below the level of the baffle and terminating closely adjacent the carbonator bottom end. The baffle includes a further large orifice for receiving there through the internal outlet tube. Within the carbonator the carbon dioxide gas inlet includes a tube secured thereto terminating in a closed porous plastic end plug or diffuser positioned above the level of the baffle. In operation, the cooled non-carbonated syrup/water mixture is introduced into the carbonator when the level indicator signals that the level of beverage therein requires replenishing. Carbon dioxide gas is provided to the internal volume of the cylinder at a predetermined pressure. The carbon dioxide gas flows into the porous diffuser and passes there through into the surrounding water/syrup mixture as finely divided bubbles quickly putting the gas into solution into the beverage. The baffle plate serve to insure that the more highly carbonated mixture adjacent the carbonator bottom end is preferentially directed towards the beverage outlet tube end.